

WHAT IS CLAIMED IS:

- 1           1. A method for reacquiring a target in an  
2 automated video tracking system, the method comprising  
3 the steps of:  
4           (a) selecting a desired target to be tracked;  
5           (b) switching the automated video tracking  
6 system to an automatic mode to initiate a tracking  
7 sequence to automatically track the selected desired  
8 target;  
9           (c) switching the automated video tracking  
10 system from an automatic mode to a manual mode if the  
11 automated video tracking system encounters a period of  
12 difficulty in tracking the desired target;  
13           (d) reacquiring the desired target in manual  
14 mode; and  
15           (e) switching the automated video tracking  
16 system to the automatic mode for automatic tracking of  
17 the reacquired desired target without initiating a new  
18 tracking sequence.
- 1           2. The method of claim 1, wherein step (a)  
2 comprises centering the desired target in a display of a  
3 scene including the desired target.
- 1           3. The method of claim 1, wherein step (b)  
2 comprises releasing control of an input device used to  
3 select the desired target.

1                   4. The method of claim 1, wherein step (c)  
2 comprises controlling an input device used to select the  
3 desired target.

1                   5. The method of claim 1, wherein step (d)  
2 comprises centering the desired target in a display of a  
3 scene including the desired target.

1                   6. The method of claim 1, wherein step (e)  
2 comprises releasing control of an input device used to  
3 reacquire the desired target.

1                   7. The method of claim 1, further comprising  
2 the steps of:  
3                   calculating a confidence level indicating how  
4 well the tracked target matches the selected desired  
5 target; and  
6                   warning an operator if the confidence level  
7 falls below a predetermined threshold.

1                   8. An apparatus for reacquiring a target in an  
2 automated video tracking system, the apparatus  
3 comprising:  
4                   selecting means for selecting a desired target  
5 to be tracked;  
6                   mode switching means for switching the  
7 automated video tracking system to and from one of an  
8 automatic mode to initiate a tracking sequence after

9 target selection to automatically track the selected  
10 desired target and a manual mode;  
11 reacquiring means for reacquiring the desired  
12 target in manual mode if the automated video tracking  
13 system encounters a period of difficulty in tracking the  
14 desired target;  
15 wherein after reacquiring the desired target  
16 the automated video tracking system is switched back to  
17 automatic mode without initiating a new tracking  
18 sequence.

1 9. The apparatus of claim 8, wherein the  
2 selecting means comprises an input device for centering  
3 the desired target in a display of a scene including the  
4 desired target.

1 10. The apparatus of claim 9, further  
2 comprising:  
3 a video camera for capturing video image data  
4 of a scene including the desired target;  
5 pan and tilt camera motors for controlling a  
6 pan and tilt, respectively of the video camera; and  
7 a video display for displaying the video image  
8 data;

9 wherein the input device is a joystick  
10 operatively connected to the pan and tilt motors such  
11 that movement of the joystick controls the movement of  
12 the camera through the pan and tilt motors.

1           11. The apparatus of claim 8, wherein the mode  
2 selecting means comprises an input device where the  
3 automated video tracking system is switched to automatic  
4 mode by controlling an input device used to select the  
5 desired target and the automated video tracking system is  
6 switched to manual mode by releasing control of the input  
7 device.

1           12. The apparatus of claim 11, further  
2 comprising:  
3           a video camera for capturing video image data  
4 of a scene including the desired target;  
5           pan and tilt camera motors for controlling a  
6 pan and tilt, respectively of the video camera; and  
7           a video display for displaying the video image  
8 data;  
9           wherein the input device is a joystick  
10 operatively connected to the pan and tilt motors such  
11 that movement of the joystick controls the movement of  
12 the camera through the pan and tilt motors.

1           13. The apparatus of claim 8, wherein the  
2 reacquiring means comprises an input device for centering  
3 the desired target in a display of a scene including the  
4 desired target.

1           14. The apparatus of claim 13, further  
2 comprising:



19 system encounters a period of difficulty in tracking the  
20 desired target;

21 wherein after reacquiring the desired target  
22 the automated video tracking system is switched back to  
23 automatic mode without initiating a new tracking  
24 sequence.

1 16. The automated video tracking system of  
2 claim 15, wherein the selecting means comprises an input  
3 device for centering the desired target in the display.

1 17. The automated video tracking system of  
2 claim 16, wherein the input device is a joystick  
3 operatively connected to the pan and tilt motors such  
4 that movement of the joystick controls the movement of  
5 the camera through the pan and tilt motors.

1 18. The automated video tracking system of  
2 claim 15, wherein the mode selecting means comprises an  
3 input device where the automated video tracking system is  
4 switched to automatic mode by controlling an input device  
5 used to select the desired target and the automated video  
6 tracking system is switched to manual mode by releasing  
7 control of the input device.

1 19. The automated video tracking system of  
2 claim 18, wherein the input device is a joystick  
3 operatively connected to the pan and tilt motors such

